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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:

EDMUND W. BROWN

Serial No.: 09/769,590

Filed: January 25, 2001

Group Art Unit: 3683

Examiner: Matthew C. Graham

DAMPENING CYLINDER FOR TRANSFER MECHANISM

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Jodi A. Calderon 1-17-06

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APPELLANT'S REPLY BRIEF

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Sir:

In response to the Examiner's Answer dated November 17, 2005, Appellant provides this Appellant's Reply Brief. Appellant believes that the Reply Brief is in full conformance with 37 CFR § 41.41, and as such, entry of such Brief is earnestly solicited. Please charge any additional fees to Deposit Account No. 50-1170.

ARGUMENT

Issue I

I. Rejection

The Examiner has rejected all of the pending claims, namely, claims 22-30, 32, 34-35 and 37-40, under 35 U.S.C. 103(a) as being unpatentable over British Publication No. 1,257,827 (hereinafter referred to as the "827 publication") in view Kroeker et al., U.S. Patent No. 4,969,643 (hereinafter referred to as "Kroeker").

II. Claims 22-29

As described in Appellant's Brief of August 31, 2005, Appellant believes claim 22 defines over the cited references for a plurality of reasons. More specifically, unlike the dampening cylinder defined in claim 22 of the present application, neither of the cited references shows or suggests a dampening cylinder having:

1. a first control valve that controls the flow rate of the fluid flowing into the second portion of the cavity in the housing;
2. a second control valve that controls the flow rate of the fluid flowing into the first portion of the cavity in the housing; or
3. flow regulators having a plurality of user-selectable discrete settings for controlling the flow rate of the fluid flowing between the first and second portions of the cavity and providing a discrete metered flow through a corresponding flow control valve.

In response, the Examiner has suggested that the "827 publication itself, or in combination with the Kroeker et al., '643 patent, discloses each of the limitations of claim 22. More specifically, the Examiner believes the limitation directed to a first control valve that controls the flow rate of the fluid flowing into the second portion of the cavity in the housing and the limitation directed to a second control valve that controls the flow rate of the fluid flowing into the first portion of the cavity in the housing are met by check valve 38 and valve 35 disclosed in the '827 publication. However, this is simply not correct.

In the device disclosed in the '827 publication, each maximum pressure valve (35) is connected in series with a corresponding check valve (38) that is connected in parallel with the other of the maximum pressure valves (35). In operation, once the pressure within the one of the working spaces exceeds a predetermined threshold, the maximum pressure valve (35) operatively connected to the one of the working spaces opens thereby allowing the air contained in the working space to flow therepast. The air passes through the check valve connected in series with the open maximum pressure valve and flows into the other working space of the double-acting air cylinder. In other words, one of the maximum pressure valves and a corresponding check valve controls the flow of fluid from one working space into the other working space of the air cylinder.

Even assuming, as the Examiner suggests, the biasing force of the spring (50) acting on the maximum pressure valve (35) is adjustable, it can be appreciated the neither the maximum pressure valve (35) or it corresponding check valve (38) may be used to control the *rate* at which the air flows between the working spaces, only the pressure at which the valves (35 and 38) open. Once opened, the valves in the '827 publication allow the air to pass therethough, under pressure, without regard to or means for controlling to rate of the air flow. Hence, the structure of the device in the '827 differs significantly from the structure defined in independent claim 22 wherein the flow

regulators (202 and 204) ". . . have a plurality of user-selectable discrete settings for controlling the flow rate of the fluid flowing between the first and second portions of the cavity."

The Examiner has also suggested that the limitation directed to the flow regulators having a plurality of user-selectable discrete settings for controlling the flow rate of the fluid flowing between the first and second portions of the cavity and providing a discrete metered flow through a corresponding flow control valve is met by valve (35) of the '827 publication in combination with the alleged discrete flow metering provided in the Kroeker et al., '643 patent. However, this is simply incorrect. The alleged discrete flow metering provided in the Kroeker et al., '643 patent controls the flow of the fluid exiting corresponding portions of the interior of the hydraulic cylinder into a reservoir, while the flow of fluid into the portions of the cavity are controlled by suction. There is no teaching or suggestion in the Kroeker et al., '643 patent to provide a flow regulators that control the flow rate of the fluid flowing between the first and second portions of the cavity. Such a structure is entirely absent from the cited references.

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." *Manual of Patent Examining Procedure, §2142.*

Clearly, there is no incentive or motivation for the combination suggested by the Examiner. The British '827 publication discloses a device for balancing the forces of inertia in reciprocating stands of coal in rolling mills. There is no need to control the flow rate of the air passing between the first and second portions of the cavity. With respect to the exercise apparatus of Kroeker, a user merely controls the volume of fluid exiting one chamber of the apparatus. However, unlike the claimed invention wherein the flow rate of the fluid is controlled between the first and second portions of the cavity in both directions, there is simply no need to control the flow rate of the fluid re-entering the chamber. Hence, it can be appreciated that there is no incentive or motivation for the examiner's suggested combination.

Further, as heretofore described, nothing in either of the cited references teaches or suggests a dampening cylinder incorporating control valves that control the flow rate of fluid flowing between the first and the second portions of the cavity in the housing or flow regulators having a plurality of user-selectable discrete settings for controlling the flow rate of the fluid flowing between the first and second portions of the cavity. Hence it is believed that claim 22 defines over the cited references and is in proper from for allowance.

Claim 23-29 depend either directly or indirectly from independent claim 22 and further define a dampening cylinder not shown or suggested in the prior art. It is believed that claims 23-29 are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

III. Claims 30, 32, 34-35 and 37

Similar to claim 22, claim 30 defines a dampening cylinder incorporating a cylindrical housing and a piston slidable through the housing. A control valve structure

is disposed between first and second conduits to control the flow of fluid between the first and second portions of the cavity in the housing. The control valve structure includes first and second flow control valves in series between the first and second conduits. Each flow control valve includes a flow regulator having a plurality of user selectable settings and being movable into and out of a corresponding flow path. The flow regulators provide discrete metered fluid flow through corresponding flow paths and control the *flow rate* of the fluid flowing between the first and second portions of the cavity in the housing. Further, claim 30 requires the fluid to flow into and out of the first portion of the housing solely through the first opening and for the fluid to flow into and out of the second portion of the housing solely through the second opening in the housing.

As heretofore described, nothing in the cited references teaches or suggests a dampening cylinder incorporating control valves that control the flow rate of fluid flowing between the first and the second portions of the cavity in the housing or flow regulators having a plurality of user-selectable discrete settings for controlling the flow rate of the fluid flowing between the first and second portions of the cavity. Further, neither of cited references incorporate a structure that requires the fluid to flow into and out of the first portion of the housing *solely* through the first opening and for the fluid to flow into and out of the second portion of the housing *solely* through the second opening in the housing. In fact, the Examiner does not even address the absence of this structural limitation in claim 30. Hence, it is believed claim 30 clearly defines over the cited references.

Claims 32, 34-35 and 37 depend either directly or indirectly from independent claim 30 and further define a dampening cylinder not shown or suggested in the prior art. It is believed that such claims are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

IV. Claims 38-39

Similar to claims independent claims 22 and 30, claim 38 defines a dampening cylinder that incorporates first and second flow regulators. Each flow regulator has a plurality of user-selectable discrete settings for controlling the *flow rate* of the fluid flowing between the first and second portions of the cavity and for providing a discrete metered flow through a corresponding flow control valve. Further, like claim 30, claim 38 defines a dampening cylinder the fluid flows into and out of the first portion of the housing *solely* through the first opening and the fluid flows into and out of the second portion of the housing *solely* through the second opening in the housing.

As heretofore described with respect to independent claim 30, neither of the cited references shows or suggests a dampening cylinder that incorporates flow regulators that have a plurality of user-selectable discrete settings for controlling the *flow rate* of the fluid flowing between the first and second portions of the cavity and for providing a discrete metered flow through a corresponding flow control valve. Further, nothing in the cited references shows or suggests a dampening cylinder wherein the fluid flowing into and out of the first portion of the housing flows *solely* through the first opening and the fluid flowing into and out of the second portion of the housing flows *solely* through the second opening in the housing. As a result, it is believed that independent claims 38 clearly defines over the cited references and is proper form for allowance.

Claim 39 depends either directly or indirectly from independent claim 38 and further defines a dampening cylinder not shown or suggested in the prior art. It is believed that claim 39 is allowable as depending from an allowable base claim and in view of the subject matter of each claim.

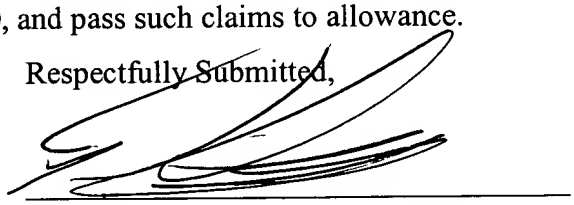
V. Claim 40

Similar to claims independent claims 22, 30 and 38, claim 40 defines a dampening cylinder that incorporates first and second flow regulators. Each flow regulator has a plurality of user-selectable discrete settings for controlling the *flow rate* of the fluid flowing between the first and second portions of the cavity and for providing a discrete metered flow through a corresponding flow control valve. Again, as heretofore described, none of the cited references show or suggest such a structure. Consequently, it is believed that the Examiner's rejection of independent claim 40 is improper and claim 40 is in proper form for allowance.

CONCLUSION

Contrary to the Examiner's assertions, claims 22-30, 32, 34-35 and 37-40 define a dampening cylinder not shown or suggested in the prior art. As heretofore described, there are significant structural differences between Appellant's claimed invention and the cited references which the Examiner has failed to appreciate. These differences provide significant advantages over the structures disclosed in the cited references. Consequently, Appellant believes that all of the claims appealed herein, namely, claims 22-30, 32, 34-35 and 37-40 are in proper form for allowance. As such, Appellant requests that the Board overturn the Examiner's rejection of all of the pending claims, namely, claims 22-30, 32, 34-35 and 37-40, and pass such claims to allowance.

Respectfully Submitted,



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